



{In Archive} Malibu gradient and sample sites

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to:

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09/27/2010 11:12 AM

Cc:

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# 1 Attachment



Peter\_base\_map\_092710.emf

Cindy – Attached is a map showing the Malibu bio sampling sites. We took a look at stream gradient as far as revealed by the 10m DEM by using the following procedure:

1. Buffer each monitoring point by a circle with radius of 1000 ft.
2. Determine stream elevations at the upstream and downstream locations where the stream crosses the circle.
3. Divide by the stream reach length (NHD) to get the gradient.

These results are shown below and suggest several of the sites are essentially low gradient, including the lower Malibu Creek site. These results should, however, be used with caution because the DEM, even at 10 m resolution, may not resolve the stream surface elevation very well. Also, the results do not match up very well with the percent gradient results given for the MCWMP sites in the 2005 report (which says, for instance, that the lower Malibu Creek site had a 3 percent gradient. Those results were obtained by an inclinometer over a thalweg distance of 100 m, and are likely also rather imprecise (the 2005 report shows percent gradient as whole integers of 1, 2, or 3 % only).

## Results from DEM:

Site ID	Minimum Elevation (meters)	Maximum Elevation (meters)	Length (meters)	Slope (%)
HtB-CC-11	183	214	668	4.6%
HtB-CC-2	132	144	639	1.9%
HtB-CC-3	373	435	554	11.1%
HtB-CH-6	295	309	629	2.2%
HtB-LV-13	213	225	670	1.7%
HtB-LV-5	149	159	525	1.8%
HtB-LV-9	279	289	644	1.7%
HtB-MC-1	6	9	630	0.5%
HtB-MC-12	158	217	619	9.5%
HtB-MC-15	127	153	722	3.5%
HtB-MD-7	243	253	838	1.2%
HtB-PC-8	372	389	580	2.9%

HtB-STC-16	156	171	381	3.9%
HtB-TR-17	237	240	610	0.5%
HV	293	293	363	0.1%
LC	216	229	626	2.1%
LIN1	293	300	732	0.9%
LIN2	277	288	386	2.8%
LV1	257	265	698	1.2%
LV2	194	207	786	1.6%
MAL	8	13	682	0.8%
MED1	286	295	705	1.3%
MED2	220	226	437	1.2%
PC	272	273	266	0.5%
TRI	253	260	626	1.0%

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